This document contains Part 2 (pp.53–56) of Chapter 2 of the National Coastal Condition Report III.

The entire report can be downloaded from http://www.epa.gov/nccr

National Coastal Condition Report III

Chapter 2: National Coastal Condition

Part 2 of 5

December 2008

National Coastal Condition, Excluding Alaska and Hawaii

A sampling survey of the ecological condition of Alaska's coastal resources in the southcentral region of the state was completed in 2002, the results of which are included in this report. The southcentral region of Alaska is referred to as the Alaskan Province and includes Prince William Sound and Cook Inlet. This portion of Alaska encompasses 21,562 mi^2, or 35% of the total U.S. coastal area surveyed for this report. The national coastal condition scores and ratings represent areally weighted averages of the regional scores; because they encompass 35% of the total coastal area, the condition of Southcentral Alaska's coastal waters has a major influence on the nation's overall condition and index scores. In contrast, the area of Hawaii's estuaries and coastal embayments is 98 mi^2, or less than 1% of the total coastal area of the United States; therefore, estimates of the condition of Hawaii's coastal waters have little influence on the national scores.

For this report, the condition of U.S. coastal waters was determined by combining regional assessments, including assessments of Hawaii, Southcentral Alaska, and Puerto Rico. The NCCR II did not include Alaska or Hawaii in its national assessment because data were not available for the coastal waters of those states. The following assessment provides a comparison of the overall condition and index scores for the nation from 2001 to 2002, including data for Southcentral Alaska and Hawaii, to scores based only on data for the conterminous United States and Puerto Rico.

California beach (courtesy of Brad Ashbaugh).

Highlight

Assessing Coastal Watershed Conditions in the National Parks

The National Park System includes more than 5,100 miles of coast, including coral reefs, barrier islands, kelp forests, estuaries, and other resources in over three million acres of ocean and Great Lakes waters. Recognized for their beauty and national significance, these parks provide recreational opportunities, havens for ocean wildlife, and economic benefits to local communities. The National Park Service (NPS) is charged with conserving the natural and cultural resources within parks that are unimpaired for the enjoyment of current and future generations. To achieve its mission, the NPS must increase its scientific understanding of coastal park conditions, evaluate threats, and pursue solutions to known resource problems. The NPS Coastal Watershed Condition Assessment (CWCA) Program is providing scientific assessments of resource conditions in the coastal parks to address these needs.

Status of CWCA Program assessments as of June 2007 (courtesy of NPS).

Example Stressor Matrix Table Showing the Potential for the Degradation of Natural Resources in Kaloko Honokohau National Historical Park, HI (Hoover and Gold, 2005).

Stressor	Anchialine Pools	Kaloko Pond	Wetlands	Intertidal	Coastal Waters
Nutrients	PP*	PP	OK*	OK*	OK*
Fecal bacteria	OK*	OK*	OK*	OK*	OK*
Dissolved oxygen	OK	OK*	OK*	OK*	OK*
Metals	OK*	OK*	OK*	OK*	PP*
Toxic compounds	PP*	PP*	PP*	OK*	OK*
Increased temperature	OK	OK	OK*	OK*	PP*
Reduced GW flux	PP*	PP*	PP*	OK*	OK*
Fish/shellfish harvest	PP*	OK*	OK*	PP	OK*
Invasive species	EP*	EP*	EP	PP*	PP*
Physical impacts	OK	OK	OK	OK	OK*
Sea-level rise	PP	OK	OK	PP	OK
Sound pollution	OK*	OK*	PP*	PP*	PP*
Light pollution	PP*	OK*	OK*	OK*	PP*

EP – existing problem, PP – potential problem, OK – not currently or expected to be a problem
*Limited data.

NPS works closely with scientists from universities to review and synthesize existing information to determine the status of coastal park resources and condition indicators, including water quality, habitat condition, invasive and feral species, extractive uses, physical impacts from resource use and coastal development, and other issues affecting water resource health. Beginning in 2006, the assessments for the remaining parks were expanded to evaluate the condition of upland natural resources within coastal park boundaries. The NPS Water Resources Division (WRD) plans to complete assessments of 55 ocean and Great Lakes parks, utilizing expertise in physical and biological sciences, including oceanography, water quality, marine and estuarine sciences, and geographic information systems (GIS).

As of 2007, WRD has completed assessments of 23 ocean and Great Lakes parks (see map) characterizing the relative health or status of natural resources, revealing factors that may cause impairment, clarifying needs for field studies, and identifying the information gaps that hinder efforts to address resource problems or more fully evaluate conditions. These assessments include the development of stressor matrix tables, which are being included in each report (see table). These tables are useful summaries of known and potential stressors and will be used to provide a regional summary of the condition of the NPS coastal units by cross-walking with the EPA NCA regional scorecards.

WRD is providing the CWCA reports to help guide resource management planning and support the development of Vital Signs Monitoring Plans. These reports could be used to guide more intensive efforts aimed at further explaining known park problems, identifying pollution sources or other resource stressors, and developing restoration or cooperative watershed management strategies in parks and across the nation. The NPS plans to work collaboratively with programs such as the NCA, as well as with federal, state, and local agencies; watershed councils; landowners; and other community stakeholders, to address issues cooperatively on a local watershed or regional oceanographic scale. Copies of completed coastal watershed condition assessments may be found at http://www.nature.nps.gov/water/watershed_reports/WSCondRpts.htm. For more information, contact Kristen Keteles by phone at (303) 969-2342 or via email at Kristen_Keteles@partner.nps.gov.

The overall condition of U.S. coastal waters is rated fair whether or not data for Southcentral Alaska and Hawaii are included in the assessment; however, excluding data for Southcentral Alaska and Hawaii reduces the nation's overall condition score from 2.8 to 2.3, as shown in Figure 2-12. Figure 2-13 provides a summary of the percentage of conterminous U.S. coastal area in good, fair, poor, or missing categories for each index and component indicator. Removing Southcentral Alaska and Hawaii from the national score calculations primarily affects the assessments for the water quality and sediment quality indices. The water quality index score is 3.9 (rated fair to good) for U.S. coastal waters when data for Southcentral Alaska and Hawaii are included, but this score decreases to 3.3 (rated fair) if data for Southcentral Alaska and Hawaii are excluded. The sediment quality index score is 2.8 (rated fair) for U.S. coastal waters when data for Southcentral Alaska and Hawaii are included, but this score decreases to 1.6 (rated poor) when these data are excluded. Benthic and coastal habitat indices were unavailable for Southcentral Alaska and Hawaii, so these scores do not change. Fish tissue contaminant data were available for Southcentral Alaska, but not for Hawaii. The condition rating for the fish tissue contaminants index is fair regardless of whether Southcentral Alaska data were included, but the actual score changed from 3.4 (including Southcentral Alaska data) to 2.9 (excluding Southcentral Alaska data).

The estuaries and coastal embayments of Hawaii represent less than 1% of the nation's coastal area (courtesy of James P. McVey, NOAA).

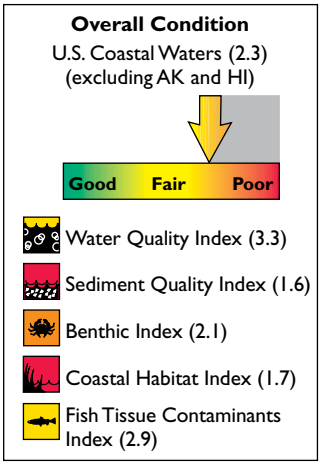

Figure 2-12. The overall condition of U.S. coastal waters (excluding Southcentral Alaska and Hawaii) is fair (U.S. EPA/NCA).

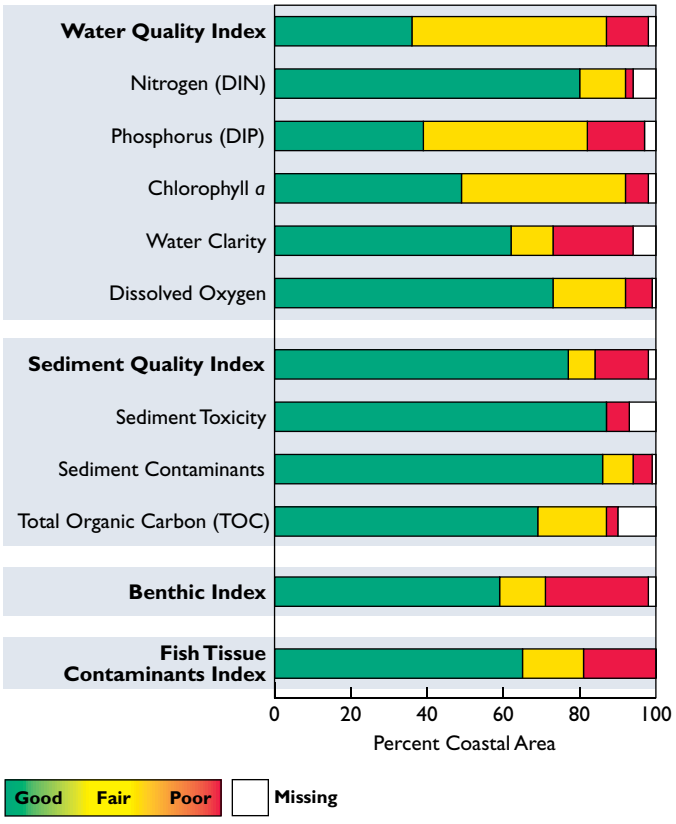

Figure 2-13. Percentage of estuarine area receiving each ranking for all indices and component indicators—United States (excluding Southcentral Alaska and Hawaii) (U.S. EPA/NCA).